NO ILLUSTRATION AVAILABLE

FFG-7 LM-2500 ENGINE TURBINE SECTION BORESCOPE TRAINER, DEVICE 19E15/2A

TRAINING CATEGORY:

PROPULSION ENGINEERING (Equipment Maintenance)

ORIGINATING AGENCY:

CNET

SECURITY CLASSIFICATION:

Device 19E15/2A is unclassified.

INTENDED USE:

For classroom use and demonstrations by students being instructed in the use of borescopes in the diagnostic survey of shipboard gas turbines. The device represents a sector of the high pressure and the low pressure turbine of the LM-2500 engine.

FUNCTIONAL DESCRIPTION:

Device 19E15/2A will correspond to segments of the high and low pressure turbine sections, with interchangeable turbine blades and a simulated rotor segment. A removable, clear plastic casing will enshroud the turbine section. Dowel pins on each end of the plastic casing will align the casing with the threaded holddown screw holes in the base plate and the turbine section.

Portions of both high and low pressure turbines will be mounted in tandem, having interchangeable blades and vanes allowing examples of varying physical conditions. They will provide a training device for both high and low turbines in a single device.

Threaded bosses, dimensionally identical to the borescope ports in the gas turbine casing will be provided in the plastic casing for inserting the training borescope. Brass closures will be provided for these ports.

Ten (10) blades on a simulated rotor quadrant will be mounted on a shaft and allow the blades to traverse across the vanes and shrouds. The shaft will be rotated by a gear-reduction hand crank/wheel at one end of the plastic casing.

Handles will be provided on the plastic casing for easy removal and interchange of components. The vanes and blades with associated boots and slot-head screws will be color coded to correspond to their appropriate locations and mountings.

A 35mm single reflex camera system will be an integral part of the trainer. A fitted cover will be provided.

Trainees must be able to rotate all shafts by a means external to the cylinders. Spare blades, so constructed that they exhibit the more common blade deformities expected to occur in the power train, will be provided. The removable blades will be of a quick release, positive lock construction.

Identification of parts must correspond to the identification as used on the actual Power Train.

ENVIRONMENTAL CHARACTERISTICS:

The device shall be capable of withstanding classroom use and shall not be adversely affected in any manner during storage and transportation when under ambient temperatures ranging from -5° to 125° F and relative humidity ranging up to 95%.

INSTALLATION AREA:

The device will be mounted on a factory type, hand cart which includes heavy duty double locking casters.

PUBLICATIONS FURNISHED:

An instructor guide for operation and an instruction sheet will be provided with the device.

PERSONNEL:

Instructor: One (1),

Trainees: Classroom

CONTRACT IDENTIFICATION:

Manufactured by General Electric Company, Cincinnati, OH under NAVTRASYSCEN Contract No. N61339-80-C-0039.

LOCAL STOCK NUMBER:

6910-LL-C00-4987